

**National Load Despatch Centre
Total Transfer Capability for December 2015**

Issue Date: 23/11/2015

Issue Time: 1600 hrs

Revision No. 3

| Corridor | Date | Time Period (hrs) | Total Transfer Capability (TTC) | Reliability Margin | Available Transfer Capability (ATC) | Long Term Access (LTA)/ Medium Term Open Access (MTOA) # | Margin Available for Short Term Open Access (STOA) | Changes in TTC w.r.t. Last Revision | Comments |
|--------------------|-------------------------------|-------------------|--|--------------------|-------------------------------------|--|--|-------------------------------------|----------|
| NR-WR * | 1st Dec 2015 to 31st Dec 2015 | 00-24 | 2500 | 500 | 2000 | 706 | 1294 | | |
| WR-NR* | 1st Dec 2015 to 31st Dec 2015 | 00-24 | 7700 | 500 | 7200 | 5938 | 1262 | | |
| NR-ER* | 1st Dec 2015 to 31st Dec 2015 | 00-06 | 2000 | 200 | 1800 | 293 | 1507 | | |
| | | 06-18' | 2000 | | 1800 | 358 | 1442 | | |
| | | 18-24 | 2000 | | 1800 | 293 | 1507 | | |
| ER-NR* | 1st Dec 2015 to 31st Dec 2015 | 00-24 | 3400 | 300 | 3100 | 2431 | 669 | | |
| W3-ER [§] | 1st Dec 2015 to 31st Dec 2015 | 00-24 | No limit is being specified. No Re-routing is allowed via W3-ER-NR. | | | | | | |
| ER-W3 | 1st Dec 2015 to 31st Dec 2015 | 00-24 | No limit is being specified. | | | | | | |
| WR-SR | 1st Dec 2015 to 31st Dec 2015 | 00-24 | 3000 | 750 | 2250 | 2250 | 0 | | |
| SR-WR * | 1st Dec 2015 to 31st Dec 2015 | 00-24 | No limit is being Specified. | | | | | | |
| ER-SR | 1st Dec 2015 to 31st Dec 2015 | 00-06 | 2650 | 0 | 2650 | 2585 | 65 | | |
| | | 18-24 | | | | 2650 | 0 | | |
| | | 06-18' | | | | | | | |
| SR-ER * | 1st Dec 2015 to 31st Dec 2015 | 00-24 | No limit is being Specified. | | | | | | |
| ER-NER | 1st Dec 2015 to 31st Dec 2015 | 00-17 | 1290 | 45 | 1245 | 210 | 1035 | | |
| | | 23-24 | 1100 | | 1055 | | 845 | | |
| | | 17-23 | | | | | | | |
| NER-ER | 1st Dec 2015 to 31st Dec 2015 | 00-17 | 1480 | 45 | 1435 | 0 | 1435 | | |
| | | 23-24 | 1340 | | 1295 | | 1295 | | |
| | | 17-23 | | | | | | | |
| W3 zone Injection | 1st Dec 2015 to 31st Dec 2015 | 00-24 | No limit is being specified (in case of skewed inter-regional flows or any constraints appearing in the system, W3 zone export would be revised accordingly) | | | | | | |

Note: TTC/ATC of S1-S2 corridor, Import of Punjab and Import of DD & DNH is uploaded on NLDC website under Intra-Regional Section in Monthly ATC.A7

* Fifty Percent (50 %) Counter flow benefit on account of LTA/MTOA transactions in the reverse direction would be considered for advanced transactions (Bilateral & First Come First Serve).

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|----------|------|-------------------|---------------------------------|--------------------|-------------------------------------|--|--|-------------------------------------|----------|
|----------|------|-------------------|---------------------------------|--------------------|-------------------------------------|--|--|-------------------------------------|----------|

\$ As per Simulations, predominant direction of flow is on West to North Corridor. Hence, in case injection point is in Western Region (W1,W2,W3), STOA/PX transactions from West to North on West-East-North corridor shall not be allowed as such transaction increases congestion in the West to North Corridor.

1) S1 comprises of Telangana, AP and Karnataka: S2 comprises of Tamil Nadu, Kerala and Puducherry

2) W3 comprises of the following regional entities :

a) Chattisgarh Sell transaction, b) Jindal Power Limited (JPL) Stage-I & Stage-II, c) Jindal Steel and Power Limited (JSPL), d) ACBL, e) LANCO Amarkantak f) BALCO, g) Sterlite (#1,3,4), h) NSPCL, i) Korba, j) Sipat, k) KSK Mahanadi, L)DB Power, m) KWPCL, n)Vandana Vidyut

The figure is based on LTA/MTOA approved by CTU and Allocation figures as per RPCs RTA/REA. In actual Operation, due to Units being on Maintenance/ Fuel shortage/New units being commissioned the LTA/MTOA utilized would vary. RLDC/NLDC would factor this situation on day-ahead basis. In the eventuality that net schedules exceed ATC, real time curtailments might be effected by RLDCs/NLDC.

In case of TTC Revision due to any shutdown :

1) The TTC value will be revised to normal values after restoration of shutdown.

2) The TTC value will be revised to normal values if the shutdown is not being availed in real time.

Limiting Constraints

| Corridor | Constraint |
|-------------------|---|
| NR-WR | (n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak. |
| WR-NR | 1. (n-1) Contingency of 765kV Gwalior-Agra one ckt leads to 2750 MW loading on second circuit. 2.High Loading of 400kV Singrauli-Anpara S/C. |
| NR-ER | (n-1) contingency of 400 kV Saranath-Pusauli |
| ER-NR | 1. n-1 contingency of one circuit of 400 kV Biharshariff- Lakhisarai leads to high loading on the other circuit 2. n-1 contingency of one circuit of 400 kV Farakka-Malda leads to high loading of the other circuit |
| WR-SR & ER-SR | (n-1) contingency of one circuit of 765 kV Raichur - Sholapur will lead to 2000 MW loading on the other circuit Low Voltage at Gazuwaka (East) Bus. |
| ER-NER | (n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other 400/220 kV, 315 MVA ICT at Misa. n-1 contingency of 400/132 kV, 2 x 200 MVA ICTs at Silchar |
| NER-ER | (n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other 400/220 kV, 315 MVA ICT at Misa |
| W3 zone Injection | --- |

Simultaneous Import Capability

| Corridor | Date | Time Period (hrs) | Total Transfer Capability (TTC) | Reliability Margin | Available Transfer Capability (ATC) | Long Term Access (LTA)/ Medium Term Open Access (MTOA) | Margin Available for Short Term Open Access (STOA) | Changes in TTC w.r.t. Last Revision | Comments |
|----------|-------------------------------|-------------------|---------------------------------|--------------------|-------------------------------------|--|--|-------------------------------------|----------|
| ER | | | | | | | | | |
| NR* | 1st Dec 2015 to 31st Dec 2015 | 00-05 | 11000 | 800 | 10200 | 8369 | 1831 | | |
| | | 05-08' | 11100 | | 10300 | | 1931 | | |
| | | 08-19' | 11000 | | 10200 | | 1831 | | |
| | | 19-24 | 10250 | | 9450 | | 1081 | | |
| NER | 1st Dec 2015 to 31st Dec 2015 | 00-17 | 1290 | 45 | 1245 | 210 | 1035 | | |
| | | 23-24 | | | | | | | |
| | | 17-23 | | | | | 1100 | 1055 | 845 |
| WR | | | | | | | | | |
| SR | 1st Dec 2015 to 31st Dec 2015 | 00-06 | 5650 | 750 | 4900 | 4835 | 65 | | |
| | | 06-18' | 5650 | | 4900 | 4900 | 0 | | |
| | | 18-24 | 5650 | | 4900 | 4835 | 65 | | |

* Fifty Percent (50 %) Counter flow benefit on account of LTA/MTOA transactions in the reverse direction would be considered for advanced transactions (Bilateral & First Come First Serve).

* For approving STOA Bilateral transactions, margin available in Simultaneous Import of NR would be apportioned on WR-NR Corridor & ER-NR Corridor in the following ratio:
 Margin in Simultaneous import of NR = A
 WR-NR ATC = B
 ER-NR ATC = C

 Margin for WR-NR applicants = $A * B / (B + C)$
 Margin for ER-NR Applicants = $A * C / (B + C)$

 Example: Margin for WR-NR applicants from 00-05 hours = $1831 * 7200 / (7200 + 3100) = 1280$
 Margin for ER-NR applicants from 00-05 hours = $1831 * 3100 / (7200 + 3100) = 551$

Simultaneous Export Capability

| Corridor | Date | Time Period (hrs) | Total Transfer Capability (TTC) | Reliability Margin | Available Transfer Capability (ATC) | Long Term Access (LTA)/ Medium Term Open Access (MTOA) | Margin Available for Short Term Open Access (STOA) | Changes in TTC w.r.t. Last Revision | Comments |
|----------|-------------------------------|-------------------|---------------------------------|--------------------|-------------------------------------|--|--|-------------------------------------|----------|
| NR* | 1st Dec 2015 to 31st Dec 2015 | 00-06 | 4500 | 700 | 3800 | 999 | 2801 | | |
| | | 06-18' | | | 3800 | 1064 | 2736 | | |
| | | 18-24 | 4500 | | 3800 | 999 | 2801 | | |
| NER | 1st Dec 2015 to 31st Dec 2015 | 00-17 | 1480 | 45 | 1435 | 0 | 1435 | | |
| | | 23-24 | 1340 | 45 | 1295 | | 1295 | | |
| | | 17-23 | | | | | | | |
| WR | | | | | | | | | |
| SR * | 1st Dec 2015 to 31st Dec 2015 | 00-24 | No limit is being Specified. | | | | | | |

* Fifty Percent (50 %) Counter flow benefit on account of LTA/MTOA transactions in the reverse direction would be considered for advanced transactions (Bilateral & First Come First Serve).

Limiting Constraints

| | | |
|-----|--------|---|
| NR | Import | (n-1) contingency of 400 kV Biharshariff- Lakhisarai S/C 1. (n-1) Contingency of 765kV Gwalior-Agra one ckt leads to 2750 MW loading on second circuit. 2.High Loading of 400kV Singrauli-Anpara S/C. |
| | Export | (n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak. (n-1) contingency of 400 kV Saranath-Pusauli |
| NER | Import | (n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other 400/220 kV, 315 MVA ICT at Misa. n-1 contingency of 400/132 kV, 2 x 200 MVA ICTs at Silchar |
| | Export | (n-1) contingency of 400/220 kV, 2x315 MVA ICTs at Misa results in high loading of other 400/220 kV, 315 MVA ICT at Misa. |
| SR | Import | (n-1) contingency of one circuit of 765 kV Raichur - Sholapur will lead to 2000 MW loading on the other circuit Low Voltage at Gazuwaka (East) Bus. |

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| Revision No | Date of Revision | Period of Revision | Reason for Revision | Corridor Affected |
|--------------------|-------------------------|---------------------------|--|---------------------------|
| 1 | 24/9/2015 | Whole Month | Revised due to revision in 765kV Gwalior-Agra Ckt-1&2 SPS setting. | WR-NR/ Import of NR |
| | | | Revised due to commissioning of 765kV Dharamjaigarh-Jabalpur D/C. | W3 Zone Injection |
| 2 | 16/10/2015 | Whole Month | STOA margin revised due to operationalization of MTOA. | WR-NR/ Import of NR |
| | | | Revised due to commissioning of 765kV Dharamjaigarh-Jabalpur D/C. | ER-W3 |
| | | | Revised due to commissioning of 765 kV Aurangabad - Sholapur D/C | WR- SR/Import of SR |
| | | | Revised due commissioning of 765 kV Aurangabad-Sholapur D/C, 765 kV Dharamjaigarh - Jabalpur D/C and considering the present inter regional power flow pattern | W3 Zone Injection |
| 3 | 23-11-2015 | Whole month | Margin available in Simultaneous Import of NR would be apportioned on WR-NR Corridor & ER-NR Corridor in the ratio of ATCs - Example | WR-NR/ Import of NR |

| ASSUMPTIONS IN BASECASE | | | | | |
|-------------------------|----------------------------|----------------|--------------------|----------------------|---------------|
| | | | | Month : December '15 | |
| S.No. | Name of State/Area | Load | | Generation | |
| | | Peak Load (MW) | Off Peak Load (MW) | Peak (MW) | Off Peak (MW) |
| I | NORTHERN REGION | | | | |
| 1 | Punjab | 5559 | 3491 | 2152 | 2085 |
| 2 | Haryana | 6228 | 2948 | 2217 | 2217 |
| 3 | Rajasthan | 9325 | 8655 | 5570 | 5514 |
| 4 | Delhi | 3175 | 1549 | 790 | 790 |
| 5 | Uttar Pradesh | 12198 | 11682 | 5569 | 5587 |
| 6 | Uttarakhand | 1679 | 1218 | 525 | 228 |
| 7 | Himachal Pradesh | 1376 | 925 | 336 | 263 |
| 8 | Jammu & Kashmir | 2339 | 2352 | 401 | 255 |
| 9 | Chandigarh | 172 | 75 | 0 | 0 |
| 10 | ISGS/IPPs | 0 | 0 | 19083 | 11552 |
| | Total NR | 42053 | 32894 | 36643 | 28491 |
| II | EASTERN REGION | | | | |
| 1 | Bihar | 2831 | 2132 | 180 | 120 |
| 2 | Jharkhand | 1049 | 914 | 540 | 360 |
| 3 | Damodar Valley Corporation | 2517 | 2132 | 3660 | 2748 |
| 4 | Orissa | 3672 | 2946 | 3365 | 1842 |
| 5 | West Bengal | 6333 | 5916 | 4695 | 3051 |
| 6 | Sikkim | 125 | 102 | 0 | 0 |
| 7 | Bhutan | 0 | 0 | 0 | 0 |
| 8 | ISGS/IPPs | 609 | 559 | 10625 | 9607 |
| | Total ER | 17137 | 14700 | 23065 | 17728 |
| III | WESTERN REGION | | | | |
| 1 | Maharashtra | 20822 | 13093 | 14523 | 7312 |
| 2 | Gujarat | 13593 | 9878 | 10498 | 7289 |
| 3 | Madhya Pradesh | 9763 | 6885 | 4479 | 3426 |
| 4 | Chattisgarh | 3676 | 2005 | 2743 | 1102 |
| 5 | Daman and Diu | 306 | 229 | 0 | 0 |
| 6 | Dadra and Nagar Haveli | 783 | 562 | 0 | 0 |
| 7 | Goa-WR | 511 | 288 | 0 | 0 |
| 8 | ISGS/IPPs | 982 | 973 | 27229 | 23303 |
| | Total WR | 50436 | 33913 | 59472 | 42431 |

| | | | | | |
|----|----------------------|--------|--------|--------|--------|
| IV | SOUTHERN REGION | | | | |
| 1 | Andhra Pradesh | 5629 | 5313 | 4759 | 4284 |
| 2 | Telangana | 6366 | 6065 | 2427 | 1899 |
| 3 | Karnataka | 7697 | 5550 | 6984 | 5307 |
| 4 | Tamil Nadu | 11912 | 11319 | 6646 | 5746 |
| 5 | Kerala | 3445 | 2132 | 1796 | 826 |
| 6 | Pondy | 336 | 220 | 0 | 0 |
| 7 | Goa-SR | 85 | 85 | 0 | 0 |
| 8 | ISGS/PPs | 0 | 0 | 10043 | 9773 |
| | Total SR | 35470 | 30684 | 32655 | 27835 |
| V | NORTH-EASTERN REGION | | | | |
| 1 | Arunachal Pradesh | 94 | 40 | 0 | 0 |
| 2 | Assam | 954 | 698 | 267 | 198 |
| 3 | Manipur | 103 | 56 | 0 | 0 |
| 4 | Meghalaya | 301 | 179 | 155 | 87 |
| 5 | Mizoram | 69 | 41 | 4 | 4 |
| 6 | Nagaland | 82 | 63 | 8 | 6 |
| 7 | Tripura | 224 | 131 | 106 | 106 |
| 8 | ISGS/PPs | 7 | 7 | 1303 | 847 |
| | Total NER | 1834 | 1215 | 1843 | 1248 |
| | Total All India | 146930 | 113407 | 153679 | 117734 |